

## PATENT COOPERATION TREATY

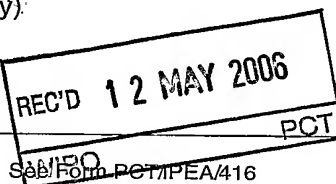
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CORRECTED  
VERSION

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference P 04 039WO	<b>FOR FURTHER ACTION</b>	
International application No. PCT/DK2005/000194	International filing date (day/month/year) 22.03.2005	Priority date (day/month/year) 05.04.2004
International Patent Classification (IPC) or national classification and IPC INV. B26D11/00		
Applicant SCANVAEGT INTERNATIONAL A/S		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand  03.02.2006	Date of completion of this report  27.04.2006	
Name and mailing address of the international preliminary examining authority:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized officer  Vaglianti, G  Telephone No. +31 70 340-2935	



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/DK2005/000194

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
  - ☐ international search (under Rules 12.3(a) and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4(a))
  - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements**\* of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-8 as originally filed

**Claims, Numbers**

1-21 received on 07.04.2006 with letter of 05.04.2006

**Drawings, Sheets**

1/1 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing *(specify):*
- ☐ any table(s) related to sequence listing *(specify):*

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing *(specify):*
- ☐ any table(s) related to sequence listing *(specify):*

\* *If item 4 applies, some or all of these sheets may be marked "superseded."*

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/DK2005/000194

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-21
	No: Claims	
Inventive step (IS)	Yes: Claims	1-21
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-21
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

- 1 Reference is made to the following document:

D1: US-A-5 937 080 (VOGELEY, JR. ET AL) 10 August 1999 (1999-08-10)

- 2 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):

A method for portion cutting of meat products, whereby the cutting is carried out in two cutting stages, where the first stage prepares the item by cutting an item into parts (see column 4, lines 18-34), which at a second cutting stage are cut into pieces (lean meat and fat, see column 5, lines 60-64) whereby a scanning of the shape, structure and/or dimension of the food item is carried out by measuring means at said first cutting stage (see column 5, lines 50-55) and in connection with said scanning a portion-cutting profile for trimming fat or other undesirable parts (see column 5, lines 60-64) is determined by processor means.

The subject-matter of claim 1 differs from this known method in that in connection with the scanning and on the basis of predetermined dimensions and/or weight of the pieces, a portion-cutting profile for cutting pieces of predetermined shape is determined by processor means. This is in contrast with the method described in D1, where the final dimensions, weight and shape of the parts cannot be predetermined as they are dictated by the random distribution of fat or other undesirable parts.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as providing an automated method for obtaining, out of a part cut from an item, an optimized distribution of meat portions of predetermined shape whose dimensions or weight are also predetermined.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following

reasons:

Neither the problem nor the solution, as represented by the combination of the features of claim 1, are rendered obvious by the available prior art.

- 2.1 Claims 2-11 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

- 3 Document D1, which is considered to represent the most relevant state of the art for claim 12, discloses (cf. column 4, lines 18-34; column 5, lines 50-55; column 5, lines 60-64) an arrangement from which the subject-matter of claim 12 differs in that the processor means contains a program which makes the arrangement suitable for cutting pieces of predetermined shape. This is in contrast with the features of the program contained in the CPU of D1 where the final dimensions, weight and shape of the parts cut by devices controlled by this program are dictated by the random distribution of fat or other undesirable parts.

The subject-matter of claim 12 is therefore new (Article 33(2) PCT).

- 3.1 The problem to be solved by the present invention may be regarded as providing an automated method for obtaining, out of a part cut from an item, an optimized distribution of meat portions of predetermined shape whose dimensions or weight are also predetermined.

The solution to this problem proposed in claim 12 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

Neither the problem nor the solution, as represented by the combination of the features of claim 12, are rendered obvious by the available prior art.

- 3.2 Claims 13-19 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
- 4 Although the formulation used for this claim makes its intended scope unclear (article 6 PCT), as far as it can be interpreted independent claim 20 concerns a

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/DK2005/000194

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method of using the arrangement of claim 12. Since this arrangement is new and involves an inventive step (see point 3 and 3.1 above), according to this interpretation also claim 20 meets the requirements of the PCT with respect to novelty and inventive step.

Although unclear (article 6 PCT) claim 21 is dependent on claim 20 and as such, as far as it can be interpreted, also meets the requirements of the PCT with respect to novelty and inventive step.

**Patent claims****(65)**

1. Method for portion cutting of food items, especially meat products, in pieces of predetermined shape, such as substantially quadratic meat pieces, characterised in that the cutting is carried out in two cutting stages, where the first stage prepares the item by cutting an item into parts, which at a second cutting stage are cut into pieces of predetermined weight and dimension, whereby a scanning of the shape, structure and/or dimension of the food item is carried out by measuring means at said first cutting stage and in connection with said scanning and on the basis of predetermined dimensions and/or weight of the pieces a portion-cutting profile is determined by processor means.
2. Method for portion cutting of food items according to claim 1, whereby said determining said portion-cutting profile comprises planning the whole of the cutting sequence.
3. Method according to claim 1 or 2, whereby at least a part of said portion-cutting profile is carried out in said first cutting stage.
4. Method according to any of the claims 1 to 3, where the method comprises the following steps:
- feeding of the items in a first cutting device, in which device the items are cut into strips in a cutting unit,
  - transfer of the strips from the first cutting device to at least one further cutting device, and
  - cutting in the at least one further cutting device, in which the strips are cut in a cutting unit into pieces of predetermined shape, such as substantially quadratic meat pieces.

5. Method according to any of the claims 1 to 4, whereby other scanning of the shape, structure and/or dimension of the strips is performed in the one or more further cutting devices.
- 5    6. Method according to any of the claims 1 to 5, whereby the feeding direction of said at least one further cutting device is different from that of said first cutting device.
7. Method according to any of the claims 1 to 6, whereby at least a part of said  
10    portion-cutting profile is communicated further to one or more of the additional cutting devices.
8. Method according to any of the foregoing claims, where the feeding directions for two or more additional cutting devices lie substantially parallel with one another.
- 15    9. Method according to any of the foregoing claims, where the feeding direction for the at least one additional cutting device lies substantially at right-angles to the first feeding direction.
- 20    10. Method according to any of the foregoing claims, which further comprises manual placing of the food items in the first cutting device and/or manual transfer of the strips to one or more of the additional cutting devices.
- 25    11. Method according to any of the foregoing claims, which further comprises non-manual placing of the food items in the first cutting device and/or non-manual transfer of the strips to one or more of the additional cutting devices.
- 30    12. Arrangement for portion cutting of food items, especially meat products, in pieces of predetermined shape, such as substantially quadratic meat pieces, comprising

a first cutting device which comprises a cutting unit for the cutting of the food items into strips,

one or more additional cutting devices, each comprising a cutting unit for the cutting of the strips into pieces of predetermined weight and dimensions, such as

5 substantially quadratic meat pieces,

wherein measuring means are arranged in the first cutting device for the scanning of the shape, structure and/or dimension of the food item, and wherein said arrangement further comprises processor means with a control programme for the planning of the portion-cutting profile for the cutting means on the basis of said scanning.

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13. Arrangement according to claim 12, wherein said processor means are arranged to plan the whole of the cutting sequence, and thereby establish said portion-cutting profile.

15 14. Arrangement according to claim 12 or 13, wherein said first cutting device is adapted to carry out at least a part of said portion-cutting profile.

15. Arrangement according to any of the claims 12-14, wherein further measuring means are arranged in said one or more additional cutting devices for the scanning of

20 the shape, structure and/or dimension of said strips.

16. Arrangement according to any of the claims 12-15, where the processor means are arranged to send at least a part of the portion cutting profile further to the one or more of the additional cutting devices.

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17. Arrangement according to any of the claims 12-16, which further comprises transfer means for the transfer of one or more of the strips from the first cutting device to the one or more of the additional cutting devices.

18. Arrangement according to any of the claims 12-17, which further comprises placing means for the placing of the food items in the first cutting device.

5 19. Arrangement according to any of the claims 12-18, wherein the feeding direction of said one or more additional cutting devices is different from that of said first cutting device.

20. Use of a cutting device in an arrangement according to any of the claims 12 to 19.

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21. Use according to claim 20, where said cutting device is arranged to send at least a part of a portion-cutting profile further to other cutting devices.